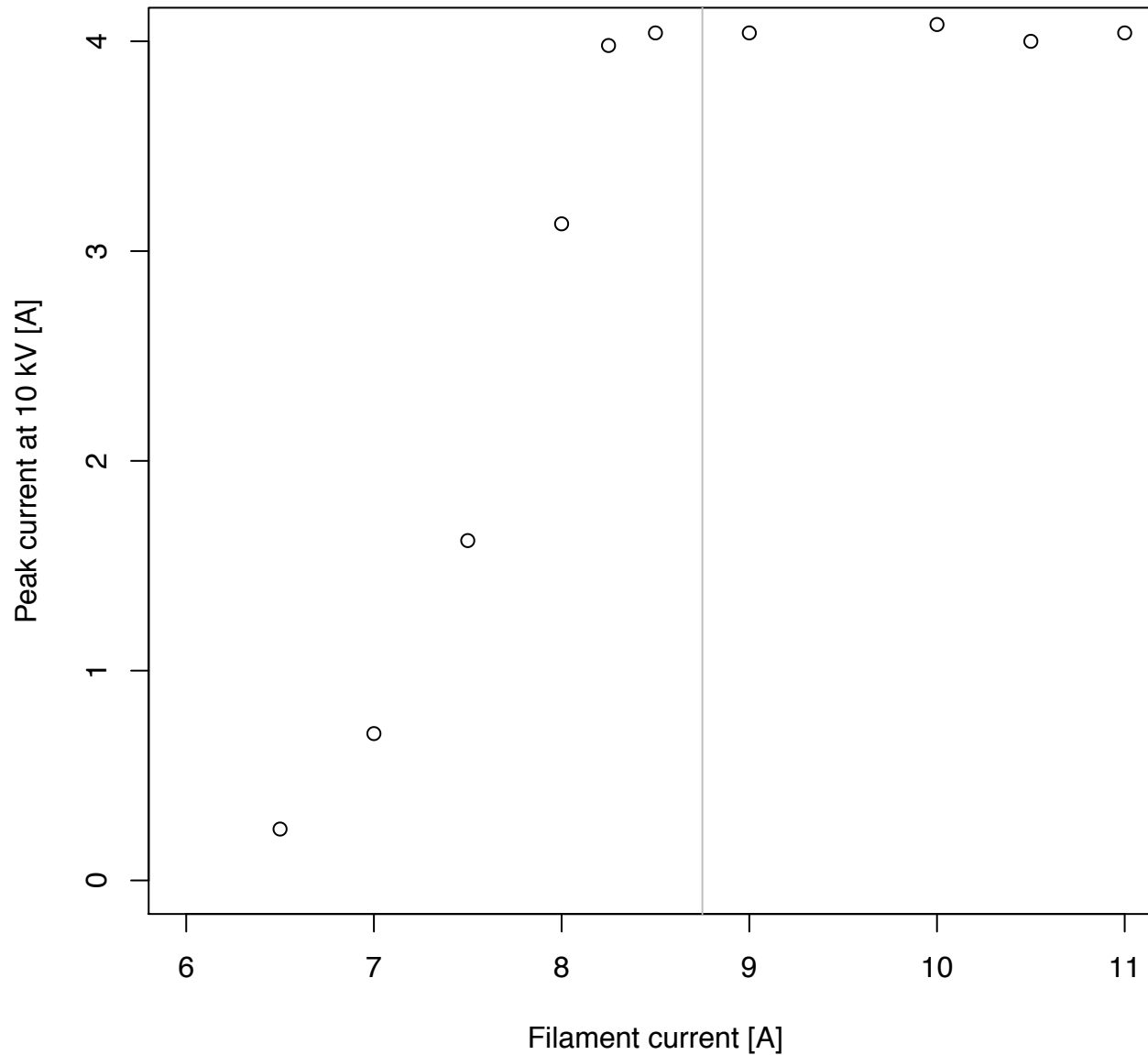


Performance of the new 1-in hollow gun

G. Stancari

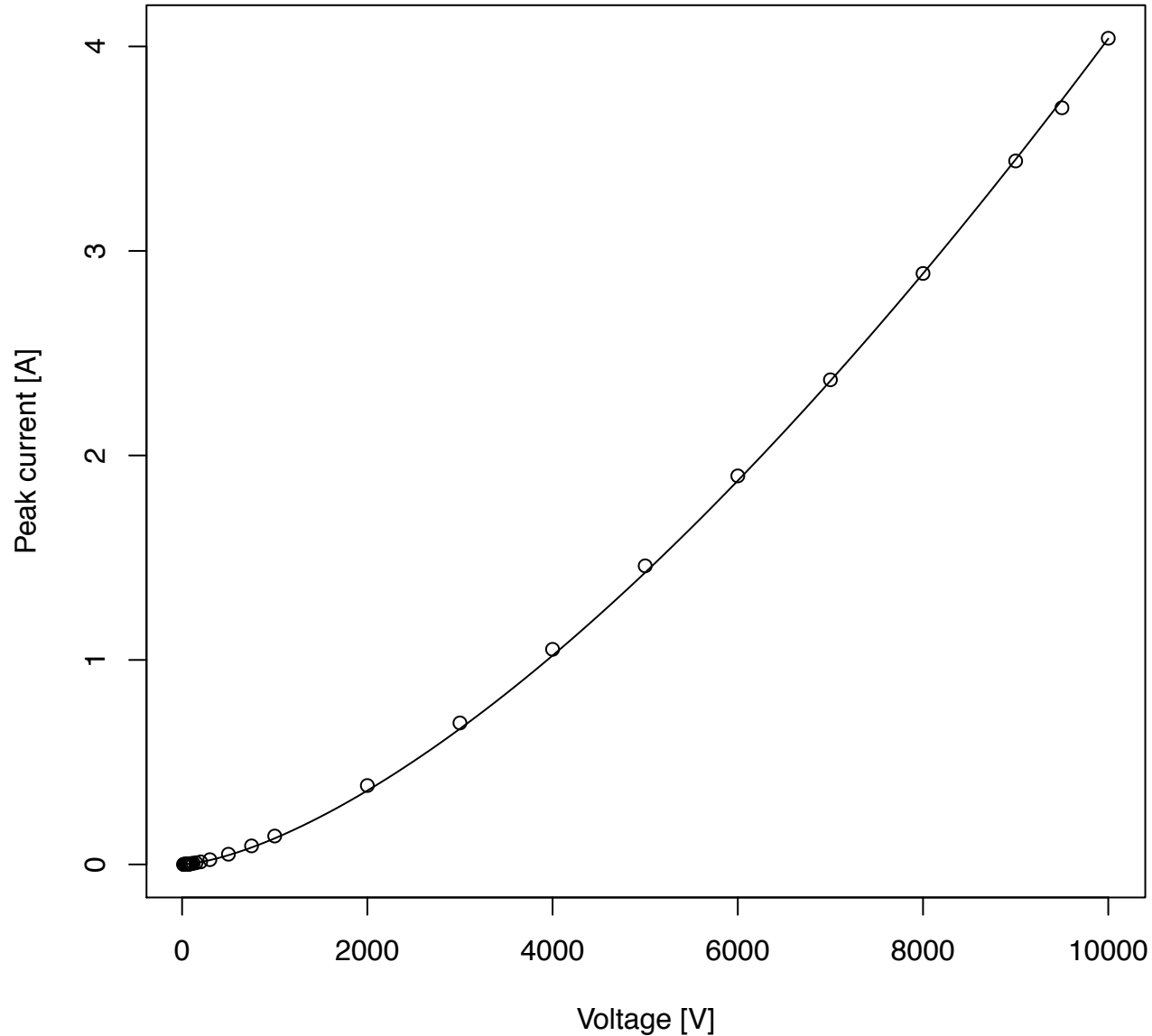
HEBC group meeting
Fermilab, 2 February 2012

Measured yield as a function of heater current



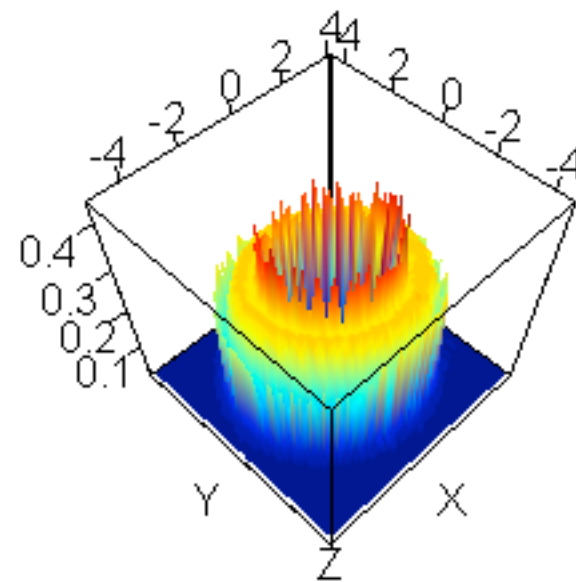
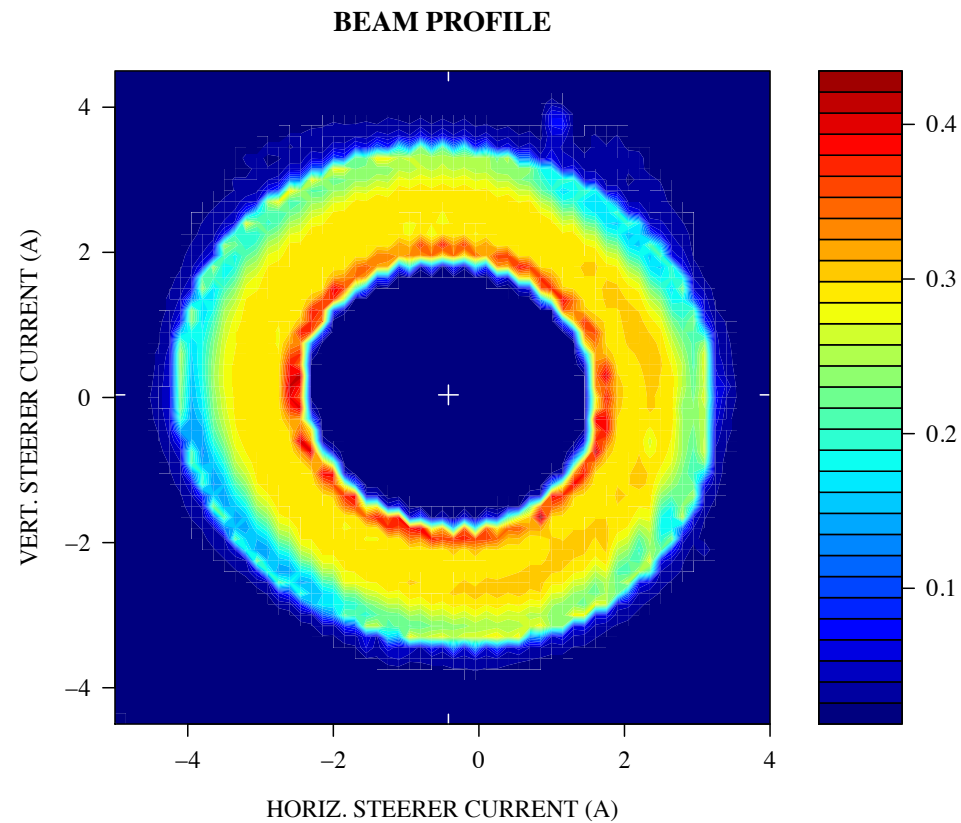
Chosen set point of 8.75 A, 9.1 V

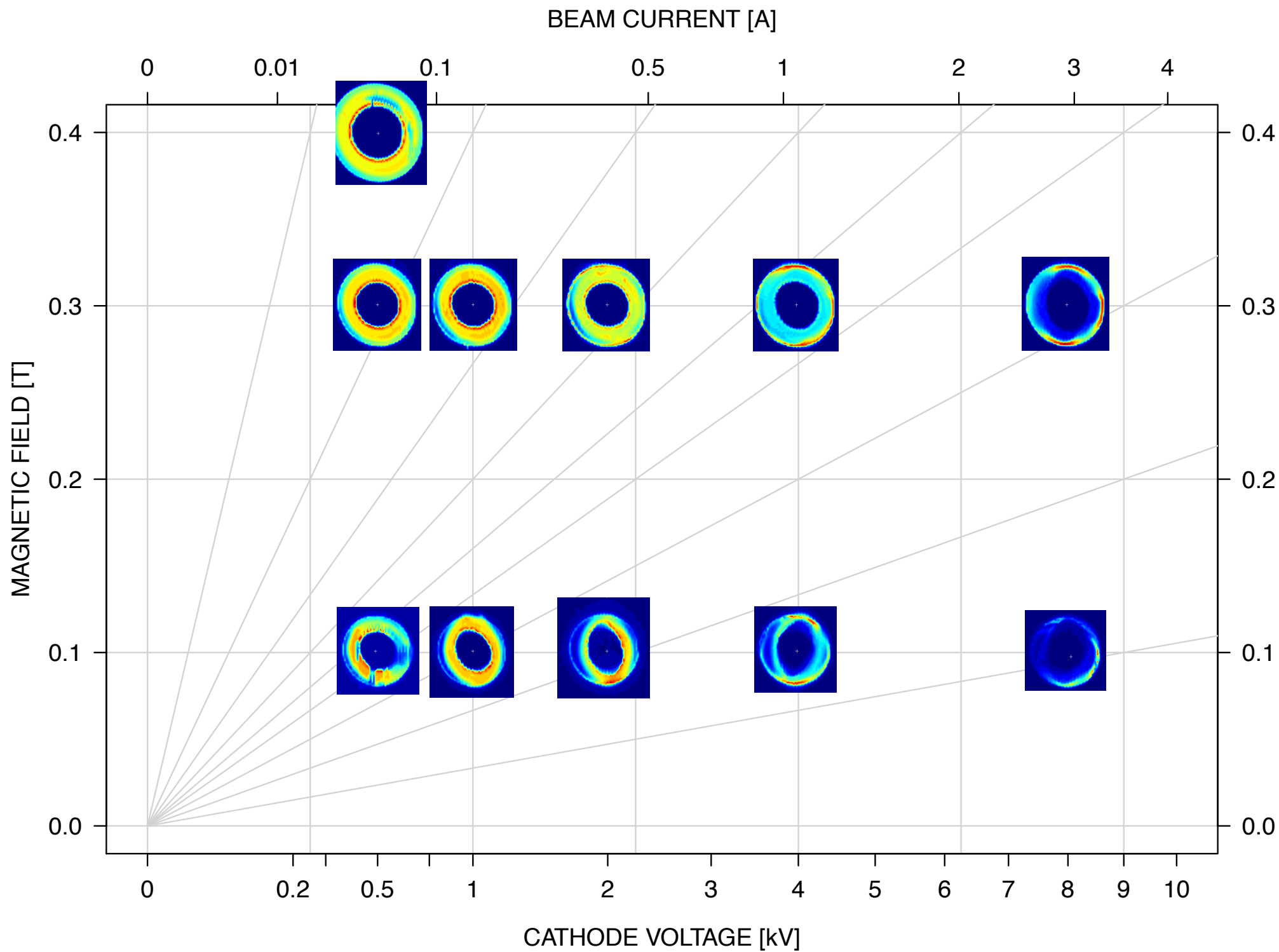
Measured yield as a function of voltage



Microperveance is 4.0 (6.3 from SAM calculation - geometry?)

Measurement of transverse profiles as a function of voltage (current) and magnetic field is under way





Comments:

- power needed to reach operating temperature is lower than expected from extrapolation of 0.4-in Gaussian and 0.6-in hollow guns. Pessimistic extrapolation? Better heat shields?
- perveance is lower than design. It may be increased by adjusting the distance between cathode and anode.
- understanding of evolution of profiles with current and magnetic field needs work. Probably OK at 3 T.